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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,201	02/25/2002	Kazumi Yamada	TSM-20	2862

			EXAMINER
24956	7590	12/12/2005	THOMPSON, JAMES A

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ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)	
Office Action Summary	10/081,201	YAMADA, KAZUMI	
	Examiner		**Art Unit**
	James A. Thompson		2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2002*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☒ All   b)☐ Some * c)☐ None of:

  1.☒ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date *2/25/02*.

4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35
U.S.C. 119(a)-(d), which papers have been placed of record in
the file.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35
U.S.C. 112:

> The specification shall conclude with one or more claims particularly
> pointing out and distinctly claiming the subject matter which the
> applicant regards as his invention.

3.   Claims 10-16 are rejected under 35 U.S.C. 112, second
paragraph, as being indefinite for failing to particularly point
out and distinctly claim the subject matter which applicant
regards as the invention.

   Claims 10, 11, 14 and 15 are independent claims which use
functional language to define a claimed device. In other words,
the recitation of said independent claims attempt to define
their respective devices by what they do, not what they are.
Since claims 10, 11, 14 and 15 are device claims, but do not
provide a physical structure for the device, Applicant has
failed to particularly point out and distinctly claim the
subject matter which Applicant regards as the invention. See
MPEP §2173.05(g). Claims 12, 13 and 16 each depend from at
least one of said independent claims, and are thus also rejected
under 35 USC §112, 2nd paragraph.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs

of 35 U.S.C. 102 that form the basis for the rejections under

this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in
> this or a foreign country or in public use or on sale in this country,
> more than one year prior to the date of application for patent in the
> United States.

5. Claims 1-3, 5-8, 10-11 and 13-15 are rejected under 35

U.S.C. 102(b) as being anticipated by Oryo (US Patent

5,745,263).

Regarding claim 1: Oryo discloses a printer (figure 10 of

Oryo) comprising color converting means (figure 10(51) and

column 6, line 64 to column 7, line 4 of Oryo) for converting a

first color component signal (L_i, C_i, H_i) based on the thus read

original into a second color component signal (L_o, C_o, H_o) for

printing (column 4, line 65 to column 5, line 9 of Oryo) by

referring to a lookup table (figure 10(53(portion)) and column

6, line 65 to column 7, line 4 of Oryo), wherein said lookup

table is formed so that the second color component represents

black when each of the color signals constituting the first

color component signal is in the range from a value indicating

the deepest color state to a predetermined value (L_s) (figure 7

(L_s); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

A portion of the RAM (figure 10(53) of Oryo) is used to store

the input/output characteristics based on a previous measurement

(column 6, line 65 to column 7, line 64 of Oryo) (a typograph-

ical error in Oryo refers to the RAM as "ROM"). Since L_s is set

as the lower limit of lightness (column 3, lines 42-46 and

column 4, lines 39-40 of Oryo), any value less than L_s will

necessarily be black. L_s is set as a predetermined value (column 4, line 65 to column 5, line 1 of Oryo).

Regarding claim 2: Oryo discloses a printer (figure 10 of Oryo) comprising color converting means (figure 10(51) and column 6, line 64 to column 7, line 4 of Oryo) for converting a first color component signal (L_i, C_i, H_i) based on the original thus read into a second color component signal (L_o, C_o, H_o) for printing (column 4, line 65 to column 5, line 9 of Oryo) by referring to a lookup table (figure 10(53) and column 6, line 65 to column 7, line 4 of Oryo), wherein said lookup table is formed so that the second color component represents white when each of the color signals constituting the first color component signal is in the range from a value indicating the lightest color state to a predetermined value (L_t) (figure 7(L_t); column 3, lines 42-46; and column 4, lines 39-40 of Oryo). The RAM (figure 10(53) of Oryo) stores the input/output characteristics based on a previous measurement (column 6, line 65 to column 7, line 64 of Oryo) (a typographical error in Oryo refers to the RAM as "ROM"). Since L_t is set as the upper limit of lightness (column 3, lines 42-46 and column 4, lines 39-40 of Oryo), any value greater than L_t will necessarily be white. L_t is set as a predetermined value (column 4, line 65 to column 5, line 1 of Oryo).

Regarding claims 3/1-3/2: Oryo discloses that the first color component signal (L_i, C_i, H_i) and the second color component signal (L_o, C_o, H_o) are constructed by plural signals indicating colors (column 4, lines 53-57 of Oryo).

Regarding claim 5: Oryo discloses that said lookup table has grids (data element entries stored in RAM) set to be non-equidistant (column 3, lines 35-42 and column 6, lines 15-21 of

Oryo), and in the vicinity of a portion where said first color
component signal indicates the deepest color state (L_s), the
distance between the grids is set to be large (figure 7 and
column 3, lines 35-42 of Oryo).

Regarding claim 6: Oryo discloses that said lookup table
is expressed by grids (data element entries stored in RAM)
including discontinuous values (column 3, lines 35-42 of Oryo);
and said grids are set to be non-equidistant (column 3, lines
35-42 and column 6, lines 15-21 of Oryo), in the vicinity of a
portion where each of color signals constituting the first color
component signal indicates the deepest color state (L_s), is set
to be wide (figure 7 and column 3, lines 35-42 of Oryo).

Regarding claim 7: Oryo discloses that said lookup table
is expressed by grids (data element entries stored in RAM)
including discontinuous values (column 3, lines 35-42 of Oryo);
and said grids are set to be non-equidistant (column 3, lines
35-42 and column 6, lines 15-21 of Oryo), in the vicinity of a
portion where each of color signals constituting the first color
component signal indicates the lightest color state (L_t), is set
to be wide (figure 7 and column 3, lines 35-42 of Oryo).

Regarding claim 8: Oryo discloses that said color
converting means has a second lookup table (figure 10(53
(portion)) and column 6, line 65 to column 7, line 4 of Oryo)
different from said lookup table (column 4, line 65 to column 5,
line 5 of Oryo), and converts the first color component signal
based on the read-out original to the second color component
signal used for printing by selectively referring to any one of
said lookup table and said second lookup table (column 5, lines
1-9 of Oryo). Two separate lookup tables, which are used to
convert an input color space to an output color space, are

stored in RAM (figure 10(53) and column 6, line 65 to column 7, line 4 of Oryo). One lookup table is the start state lookup table that is used to directly convert the input color component signals to output color component signals if the input color component signals lie within the color expression range of the output color printer (column 4, line 65 to column 5, line 5 of Oryo). A second lookup table is the lookup table that is generated when the input color component signals lie outside of the color expression range of the output color printer (column 5, lines 1-9 of Oryo).

Regarding claim 10: Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color (L_i, C_i, H_i) for conversion comprising a combination of color signals to a target color (L_o, C_o, H_o) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein each of the color signals of the subject color is in the range from a value indicating the deepest color state to a pre-determined value (L_s), color conversion is carried out by using a lookup table formed in order that the target color is to be black (figure 7(L_s); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

Regarding claim 11: Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color (L_i, C_i, H_i) for conversion comprising a combination of color signals to a target color (L_o, C_o, H_o) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein each of the color signals of the subject color is in the range from a value indicating the lightest color state to a predetermined value (L_t), color conversion is carried out by using a lookup table formed in order that the target color is to

be white (figure 7(L_t); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

Regarding claims 13/10-13/11: Oryo discloses that said lookup table is expressed by grids (data element entries stored in RAM) including discontinuous values (column 3, lines 35-42 of Oryo); and said grids are set to be non-equidistant (column 3, lines 35-42 and column 6, lines 15-21 of Oryo), and grids in a portion where the target color indicates black (figure 7(L_s) of Oryo) and grids in a portion where the target color indicates white (figure 7(L_t) of Oryo), have a larger distance than grids in other portions (figure 7 and column 3, lines 35-42 of Oryo).

Regarding claim 14: Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color (L_i, C_i, H_i) for conversion comprising a combination of color signals to a target color (L_o, C_o, H_o) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein color conversion is carried out so that the target color is to be black when each of the color signals constituting the subject color is in the range from a value indicating the deepest color state to a predetermined value (figure 7(L_s); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

Regarding claim 15: Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color (L_i, C_i, H_i) for conversion comprising a combination of color signals to a target color (L_o, C_o, H_o) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein color conversion is carried out so that the target color is to be white when each of the color signals constituting the subject color is in the range from a value indicating the

lightest color state to a predetermined value (figure $7(L_t)$;
column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

Regarding claim 16/14-16/15: Oryo discloses that the color
conversion is carried out by referring to a lookup table (figure
10(53) of Oryo) predetermined with respect to correspondence
between the color signal combination of the subject color and
the color signal combination of the target color (column 4, line
65 to column 5, line 5 of Oryo).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which
forms the basis for all obviousness rejections set forth in this
Office action:

> (a) A patent may not be obtained though the invention is not
> identically disclosed or described as set forth in section 102 of this
> title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the
> invention was made.

7.   Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as
being unpatentable over Oryo (US Patent 5,745,263) in view of
Lin (US Patent 6,185,004 B1).

Regarding claims 4/1-4/2: Oryo does not disclose expressly
that the first color component signal is a RGB signal, and the
second color component signal is a CMYK signal.

Lin discloses an input color component signal which is a
RGB signal (column 5, lines 46-47 and column 6, lines 3-8 of
Lin) and an output color component signal which is a CMYK signal
(column 5, line 57 and column 6, lines 13-16 of Lin).

Oryo and Lin are combinable because they are from the same
field of endeavor, namely color space conversion of digital

image data for a variety of input devices and output devices.
At the time of the invention, it would have been obvious to a
person of ordinary skill in the art to specifically use a RGB
color space for the input device and a CMYK color space for the
output device. The suggestion for doing so would have been
digital scanners and digital cameras, which typically use a RGB
color space, are common forms of input devices (column 5, lines
46-47 of Lin) and color printers, which typically use a CMYK
color space, are commonly used as output devices. Therefore, it
would have been obvious to combine Lin with Oryo to obtain the
invention as specified in claims 4/1-4/2.

Regarding claims 12/10-12/11: Oryo does not disclose
expressly that the subject color for conversion is constructed
by RGB, and the target color is constructed by CMYK.

Lin discloses an input color component signal which is a
RGB signal (column 5, lines 46-47 and column 6, lines 3-8 of
Lin) and an output color component signal which is a CMYK signal
(column 5, line 57 and column 6, lines 13-16 of Lin).

Oryo and Lin are combinable because they are from the same
field of endeavor, namely color space conversion of digital
image data for a variety of input devices and output devices.
At the time of the invention, it would have been obvious to a
person of ordinary skill in the art to specifically use a RGB
color space for the input device (and thus subject color) and a
CMYK color space for the output device (and thus target color).
The suggestion for doing so would have been digital scanners and
digital cameras, which typically use a RGB color space, are
common forms of input devices (column 5, lines 46-47 of Lin) and
color printers, which typically use a CMYK color space, are
commonly used as output devices. Therefore, it would have been

obvious to combine Lin with Oryo to obtain the invention as specified in claims 12/10-12/11.

8.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oryo (US Patent 5,745,263) in view of Lee (US Patent 5,012,333).

Regarding claim 9: Oryo does not disclose expressly that said color converting means selects any one of said lookup table and said second lookup table in accordance with a user's setting.

Lee discloses user selection of color conversion processing (figure 5 and column 9, lines 54-65 of Lee).

Oryo and Lee are combinable because they are from the same field of endeavor, namely digital color image data processing and alteration. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the selection of either the lookup table or second lookup table for color conversion, as taught by Oryo, by way of user selection and setting, as taught by Lee. The motivation for doing so would have been to allow a user to interactively make desired adjustments to the resultant image (column 4, lines 43-49 of Lee). Therefore, it would have been obvious to combine Lee with Oryo to obtain the invention as specified in claim 9.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

    a.   Yee S. Ng, US Patent 5,185,661, Patented 09 February 1993, Filed 19 September 1991.

b.   Spaulding et al., US Patent 5,553,199, Patented 03 September 1996, Filed 03 May 1994.

c.   Shirasawa et al., US Patent 5,689,590, Patented 18 November 1997, Filed 19 May 1995.

d.   Ogatsu et al., US Patent 5,724,442, Patented 03 March 1998, Filed 19 April 1995.

e.   Wan et al., US Patent 5,731,818, Patented 24 March 1998, Filed 04 March 1996.

f.   Narahara et al., US Patent 5,850,298, Patented 15 December 1998, Filed 18 June 1997.

g.   Ron J. Karidi, US Patent Application Publication 2003/0193680 A1, Published 16 October 2003, Filed 02 May 2003, Continuation of application filed 18 May 1999.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

01 December 2005

THOMAS D. LEE